not described in the specification in such a way as to reasonable convey to one skilled in the art that the inventors had possession of the claimed invention. Specifically, the Examiner stated that the specification does not disclose a light absorbing layer composed of acrylic resin with a black coating, but rather discloses a black layer of an acrylic resin as a light absorbing layer (on page 7, lines 19-20). Applicant has amended Claim 1 to recite a black layer of an acrylic resin as a light absorbing layer. Applicant respectfully requests that the Examiner withdraw the objection to the specification and the rejection of Claim 1 in view of the amendment to Claim 1.

In the Office Action, the Examiner rejected Claims 1 and 2 under 35 U.S.C. §112, first paragraph, stating that the specification does not disclose how to make a reflecting polarizing film including a laminated combination of a transparent scattering layer composed of a polyester resin and a black layer of an acrylic resin as a light absorbing layer, the reflecting polarizing film disposed below an outer surface of the first transparent substrate and having a surface of the black coating arranged on an outer side of the laminated combination.

Applicant traverses the rejection. Applicant submits that one skilled in the art would know that physically, reflecting polarizing films transmit only that component of incident light having a vibration direction in parallel with the transmission axis and reflect other components, thereby producing a polarizing effect on the incident light. Unlike a conventional light absorbing polarizing film, the light that remains untransmitted by the reflecting polarizing film is not absorbed. The untransmitted light, reflected by the reflecting polarizing film, is returned to the surface optical source and subsequently returned by the reflection element in the surface optical source (i.e. the light diffusing substance of the light guiding plate) to the polarizing layer. The light that is once again incident on the polarizing layer now has an additional component in parallel with the transmission axis that is transmitted. The intensity of the transmitted light thus can be increased by the repeated reflection/transmission effect. The illumination luminosity of a body to be illuminated by the polarized light can accordingly be effectively increased, e.g. a light permeable body such as liquid crystal panel has an increase in illumination.

One skilled in the art would know that the reflecting polarizing film is conventionally manufactured by alternately laminating two different kinds of polymers,

one being stretched along one axis with the other not being stretched along a different axis. Optically isotropic polymers, i.e. having an apparent refractive index that does not substantially change with stretching, are used for one of the layers. Non-isotropic polymers whose apparent refractive index changes with stretching are used as the other layer. The non-isotropic polymers conventionally have a refractive index larger that that of the isotropic polymers in the stretching direction (z-axis) and a second refractive index substantially equal to that of the isotropic polymers in the lateral, non-stretched direction (y-axis).

The composite refractive index of the laminated film for the in-plane axis parallel with the surface of the film is defined as an effective reflective index to plane-polarized incident light (the polarized plane being parallel with the in-plane axis). After the laminated film has been stretched, a substantial difference between the refractive indices of the two layers exists in the stretching direction, but the refractive indices of the two layers in the lateral direction are substantially identical. The laminated film thus acts as a reflecting (reflection type) polarizing film, transmitting a polarized component of the incident light. In the above case, the component of light having a first vibrational direction along the y-axis is transmitted while the component not transmitted is polarized in a second vibrational direction that is perpendicular to the first vibrational direction, i.e. along the x-axis. The component that is not transmitted is reflected because of the difference between the refractive indices of the two films.

One skilled in the art would know that the number of polymer layers in the polarizing film is selected to obtain the desired optical characteristics by using as few layers as possible, usually fewer than 10,000, with the thickness of the polarizing film being between 15 μm and 1 mm. One skilled in the art would also know that the polymer may be acrylic resin, among others such as polyarbonate, polyester, epoxy resin, polyurethane, polyamide, polyolefin, and silicone or modified silicone.

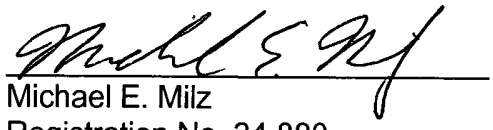
Applicant submits that this is clearly noted in the specification on page 7, lines 15-16, which provides a specific example of a commercial product having this construction and used for this purpose (reflecting polarizing film RDF-B available from Sumitomo 3M). Thus, Applicant traverses the rejection and respectfully submits that one skilled in the art would be able to incorporate a laminated combination of a

transparent scattering layer and a light absorbing layer to form a reflecting polarizing film.

Conclusion

In view of the amendments and arguments above, Applicant respectfully submits that all of the pending claims are in condition for allowance and seeks an early allowance thereof. If for any reason the Examiner is unable to allow the application in the next Office Action and believes that a telephone interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned attorneys.

Respectfully submitted,



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APPENDIX A
Serial No. 09/395,666
Reflection Liquid Crystal Display Capable of Displaying Pictures in Improved Color Purity
Takahito Mafune

Please amend Claim 1 as follows:

1. (Twice Amended) A reflection liquid crystal display comprising:

a first transparent substrate;

a second transparent substrate disposed opposite to the first transparent substrate;

a liquid crystal layer sandwiched between the first and the second transparent substrates;

a first transparent electrode layer formed on an inner surface of the first transparent substrate;

a first alignment layer formed on the first transparent electrode layer;

a reflecting polarizing film including a laminated combination of a transparent scattering layer composed of a polyester resin and a black layer of an acrylic resin as a light absorbing layer ~~composed of acrylic resin with a black coating~~, the reflecting polarizing film disposed below an outer surface of the first transparent substrate and having a surface of the black coating arranged on an outer side of the laminated combination;

a second transparent electrode layer formed on an inner surface of the second transparent substrate;

a second alignment layer formed on the second transparent electrode layer;

a phase plate placed on an outer surface of the second transparent substrate; and

a polarizing plate placed on the second transparent substrate.